BTEC
Biomass Thermal Energy Council

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Energy Potential of U.S. Wood Biomass

Example: 1 Million Tons of Green Biomass

Thermal Energy
78-85% Efficient

Yield:
Full heat load for 87,000 homes

Jobs Created:
200

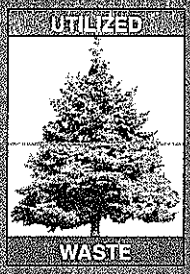
Foreign Import Reduction:
1,310,000 bbl. foreign crude

GHG Reduction:
520,000 metric tons

U.S. Taxpayer Spending:
None

Technology:
Advanced technology in place

Electricity Feedstock
30-40% Efficient



Yield:
Electricity for 73,000 homes

Jobs Created:
25

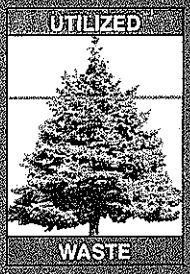
Foreign Import Reduction:
None

GHG Reduction:
700,000 metric tons

U.S. Taxpayer Spending:
Production Tax Credit: $8M
$$

Technology:
May require technology upgrade

Transportation Fuel
10-15% Efficient



Yield:
Transportation fuel for 29,000 homes

Jobs Created:
30

Foreign Import Reduction:
860,000 bbl. foreign crude

GHG Reduction:
230,000 metric tons

U.S. Taxpayer Spending:
Production Tax Credit: $40M
$$$$$$$$$

Technology:
Unproven cellulosic technology required

Additional Support & Resources

ALLIANCE FOR GREEN HEAT
clean, renewable & local

www.ForGreenHeat.org

Increase in Biomass Consumption

- *1 million tons of green wood biomass (or ~500,000 tons of wood pellets), Pellet Fuels Institute*

Total U.S. Energy Consumption

- *Energy Consumption Breakdown: Energy Information:* http://www.eia.doe.gov/emeu/aer/pdf/pages/sec2.pdf

Thermal Energy Analysis

- *Oil/Natural Gas Furnace Efficiencies*: American Council for an Energy Efficient Economy, http://www.aceee.org/consumerguide/heating.htm
- *Pellet Stove Efficiencies*: U.S. DOE Energy Efficiency and Renewable Energy, http://www.energysavers.gov/your_home/space_heating_cooling/index.cfm/mytopic=12570
- *CO2 Emissions Coefficients*: Energy Information Administration, http://www.eia.doe.gov/oiaf/1605/coefficients.html
- *Energy Content of Fuel Oil*: MIT Energy Units & Conversions Fact Sheet, http://www.mitenergyclub.org/assets/2008/11/15/Units_ConvFactors.MIT_EnergyClub_Factsheet.v8.pdf
- *Heating Oil Consumption*: Energy Information Administration, http://www.eia.doe.gov/bookshelf/brochures/heatingoil/printer_friendly_version.pdf
- *Wood Pellet Energy Content*: 7,500 Btu/short ton, PelletSales.com
- *Average Household Wood Pellet Demand*: 2.5 tons/year, PelletSales.com
- *Jobs Created in Pellet Plants*: Empirical Data, http://www.boston.com/business/articles/2009/06/08/wood_pellet_producer_opens_mississippi_plant/, http://www2.news.gov.bc.ca/news_releases_2005-2009/2009FOR0013-000073.htm, http://www.rutlandherald.com/article/20090306/NEWS04/903060354/0/NEWS02, http://www.biomassmagazine.com/article.jsp?article_id=1974

Transportation Fuel Analysis

- *WTW & WTT Energy Consumption, GHG Emissions and Fuel Economy (Ethanol from Forest Residue, CA RFG, ULSD)*: California Energy Commission Full-Fuel Cycle Analysis, http://www.energy.ca.gov/2007publications/CEC-600-2007-004/CEC-600-2007-004-REV.PDF http://www.energy.ca.gov/2007publications/CEC-600-2007-002/CEC-600-2007-002-D.PDF
- *Transportation* For 31K homes = 65,000 cars (above) / 2.28 avg. cars per U.S. household http://www.reuters.com/article/pressRelease/idUS146089+12-Feb-2008+PRN20080212
- *Ethanol and Gasoline Energy Content*: MIT Energy Units & Conversions Fact Sheet, http://www.mitenergyclub.org/assets/2008/11/15/Units_ConvFactors.MIT_EnergyClub_Factsheet.v8.pdf
- *Average VMT*: U.S. Environmental Protection Agency, http://www.epa.gov/OMS/climate/420f05004.htm
- *Efficiency of Biomass to Ethanol Conversion*: Petrolia, Daniel R., 2006. "Ethanol from Biomass: Economic and Environmental Potential of Converting Corn Stover and Hardwood Forest Residue in Minnesota," 2006 Annual meeting, July 23-26, Long Beach, CA 21422, American Agricultural Economics Association, http://ideas.repec.org/p/ags/aaea06/21422.html
- *Production Tax Credit (Cellulosic Ethanol)*: Renewable Fuels Association, http://www.ethanolrfa.org/resource/cellulosic/
- *ICE Fuel Efficiency*: U.S. Department of Energy, http://www1.eere.energy.gov/vehiclesandfuels/pdfs/mypp/1_prog_over.pdfhttp://www.fueleconomy.gov/FEG/atv.shtml

Electrical Energy Analysis

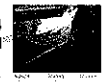
- *Coal and Natural Gas Power Plant Efficiencies*: Nation Petroleum Council Topic Paper #4, http://www.npc.org/Study_Topic_Papers/4-DTG-ElectricEfficiency.pdf
- *Wood Pellet Electricity Production Efficiency*: International Energy Association Energy Technology Essentials, http://www.iea.org/Textbase/techno/essentials3.pdf
- *Coal Energy Content and Price*: Energy Information Administration, http://www.eia.doe.gov/cneaf/coal/page/coalnews/coalmar.html
- *Average Household Energy Content*: Energy Information Administration, http://tonto.eia.doe.gov/ask/electricity_faqs.asp
- *Average CO2 Emissions from Electricity Generation*, CO2 Benchmark, http://www.co2benchmark.com/co2-per-MWH-per-country
- *Production Tax Credit (Open-Loop Biomass Electricity)*: Union of Concerned Scientists, http://www.ucsusa.org/clean_energy/solutions/big_picture_solutions/production-tax-credit-for.html
- *Energy Cost of Wood Biomass (Logging Residues and Pulpwood –no urban biomass)*: Matthew Langholtz, Douglas R. Carter, & Richard Schroeder, "Assessing the Economic Viability of Wood", University of Florida. http://www.interfacesouth.org/woodybiomass/resource_appendix/App_Assessing.pdf

Assembly Public Hearing

Committee on Jobs, the Economy & Small Business

Specifically AB794 "Biomass Thermal Heating Systems"

March 17th, 2010



Tony "T.J." Morice

V.P. Marketing & Operations—Marth Companies

Marathon, WI

MARTH

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What does Marth explains why I'm here?

Since 1958

MARTH

PELLET FUEL

ANIMAL BEDDING

- Variety of Types
- Custom Packaged Products
- Bulk bedding deliveries

Operates in 18 states

WOOD FLOUR

Specified fillers for extrusion and thermo-set processes

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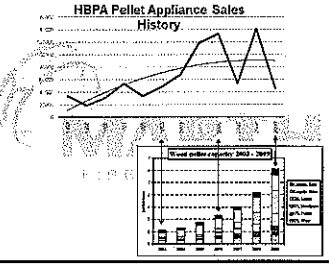
BIOMASS COMBUSTION SOLUTION

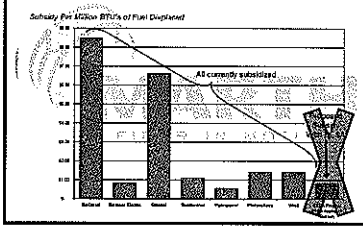
Education on utilization options, analysis and assistance on equipment offerings to clients

Why does biomass thermal need this?

HBPA Pellet Appliance Sales History



Playing Field needs to be leveled



Biomass pellet plant job creation from 2005 through today.....

Assistance parity needed to create demand & limit job losses

ENERGY: Biomass thermal is the best "bang" for the buck

U.S. Thermal Energy Consumption – Great Opportunities

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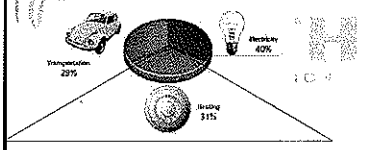
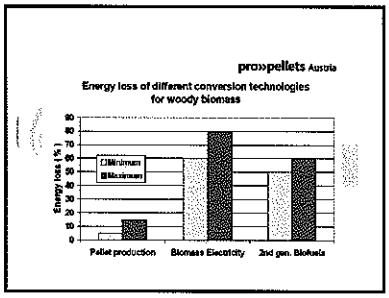
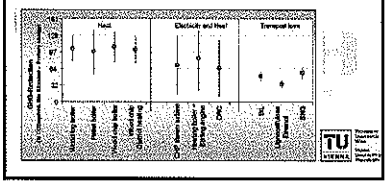


Source: U.S. Energy Information Administration

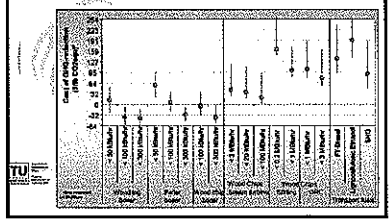


ENVIRONMENT: The emission benefits of biomass thermal have been proven in Europe.

CO_2 Advantages with Biomass Thermal

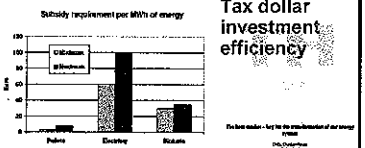


CO_2 Reduction Cost Effectiveness

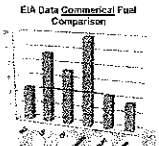


ECONOMIC: Effective investment and job stability via supply chain diversification is the premium value of biomass thermal utilization.

Tax dollar investment efficiency



HEATING WITH BIOMASS IS ECONOMICAL



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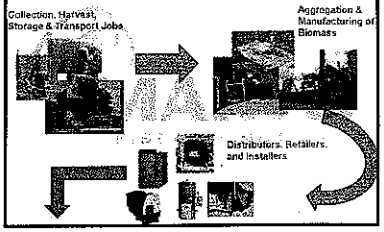
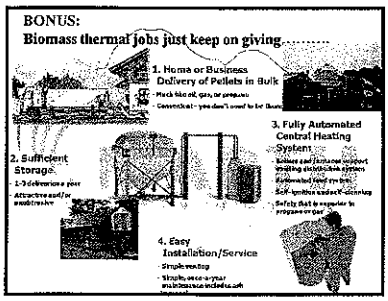
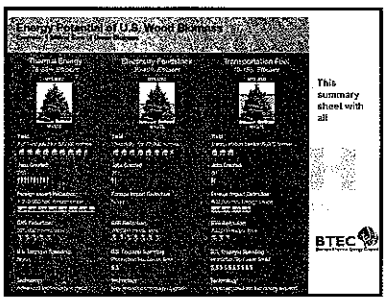
MARTH

Job Benefits to the Supply Chain on Biomass Thermal Renews Annually



BONUS:
Biomass thermal jobs just keep on giving.....





Thank you for allowing me the time to share the reasons AB794 is needed to grow the benefits of Biomass Thermal in Wisconsin

Contact Info:

SOURCES:

Remarks for Assembly Committee on Jobs, the Economy and Small Business

Regarding AB 794 – Thermal Biomass Installation Tax Incentives

By Representative Donald Friske

March 17, 2010

Thank you Chairman Molepske and Committee members for hearing this bill today.

Over the course of the past seven years, the State of Wisconsin has made a dedicated effort to stabilize the forest products industry and energy efficiency in Wisconsin through multiple strategies and efforts.

AB 794 is designed to help expand our advantage in two extremely important economic sectors, agriculture and forestry, while making significant advances in the deployment of energy efficient heating and cooling systems. Secondly, this bill will help reduce our dependence on fossil and foreign fuel in Wisconsin.

Finally, AB 794 will create small business economic activity throughout the State.

- Loggers will harvest more timber
- Farmers will grow more biomass
- Wholesalers will sell more systems
- Construction workers will install more systems
- Small businesses will service loggers and farmers
- Businesses, manufacturers and residents will all achieve more stable energy costs

AB 794, as currently drafted, creates the following tax incentives for the installation of 75% energy efficient thermal biomass (heating and cooling) systems:

- 100% ***sales tax exemption*** for residential, commercial or industrial thermal biomass heating ***systems***
  - Wisconsin already has a sales tax exemption for biomass fuel (2007 budget provision)
- 100% ***income tax credit*** for the purchase of thermal biomass for residential, commercial or industrial thermal biomass heating ***systems***
  - Create a market for the fuel to be utilized
- 100% ***income tax credit*** for the purchase of residential, commercial or industrial biomass heating ***fuel***
  - Similar to the existing sales tax exemption for fuel
- 100% ***personal and real property tax exemption*** for residential, commercial or industrial thermal biomass heating energy ***systems***
  - *Solar and wind already have this property tax exemption*
- 100% ***personal and real property tax exemption*** for residential, commercial or industrial biomass heating fuel ***storage facilities***
  - Wind and solar do not require storage of the raw fuel (sun and wind)

While agriculture is Wisconsin's largest economic driver, its forest product sector is a close second. The value added to our abundant and renewable timber resource creates a Wisconsin based job with every 25 cords of wood harvested.

The expected fiscal cost of AB 794, as drafted, to the State of Wisconsin will be roughly $80.14 million. However, I fully expect we as a chamber need to reduce the overall cost through an amendment to the bill. By comparing the current cost of thermal biomass systems with existing tax incentives from the federal government, we can right-size the scope and cost of this bill to both generate the economic activity and limit the overall cost to the State & local governments.

In the depth of this recession, it is important that Wisconsin work to emphasize and take advantage of its economic strengths to pull us up and out of the recession. This bill uses our agriculture resources, forest resources and our manufacturing capacity to help guide us to economic recovery, energy independence and efficiency that will help Wisconsin meet our common goals including a decline in our overall carbon emissions.

Thank you again for your time today to discuss this bill.

Legislative Fiscal Bureau
One East Main, Suite 301 • Madison, WI 53703 • (608) 266-3847 • Fax: (608) 267-6873

February 26, 2010

TO: Representative Donald Friske
Room 312 North, State Capitol

FROM: Ron Shanovich, Fiscal Analyst

SUBJECT: Property Tax Exemption for Thermal Biomass Heating Systems; Individual Income and Corporate Income and Franchise Tax Credits for Thermal Biomass Heating Systems and Thermal Biomass Fuel

This memorandum provides a description, and the estimated fiscal effect, of a thermal biomass heating systems and a thermal biomass fuel tax credit that would be created under the state individual income and corporate income and franchise taxes. In addition, information is provided concerning a proposed property tax exemption for thermal biomass heating systems. The income and franchise tax credits and property tax exemption would be created by the provisions of LRB 3731/1.

Thermal Biomass Heating Systems Tax Credit. LRB 3731/1 would create a thermal biomass heating systems tax credit under the state individual income and corporate income and franchise taxes. The credit would equal 100% of the installed cost of a thermal biomass heating system that the claimant paid in the tax year for a system that was installed in the claimant's primary Wisconsin residence, or in the claimant's place of business in Wisconsin. Unused credit amounts could be carried forward up to 15 years to offset future tax liabilities. Thermal biomass heating system tax credits could not be claimed by part-year residents or nonresidents for amounts paid to install a system in the claimant's primary residence in Wisconsin.

Partnerships, limited liability companies (LLCs), and tax-option corporations could not claim the tax credit, but eligibility for, and the amount of the credit would be based on the entity's payment of eligible expenses. A partnership, LLC, or tax-option corporation would be required to compute the amount of the credit that each of its partners, members, or shareholders could claim and provide that information to them. Partners, members of LLCs, and shareholders of tax-option corporations could claim the credit in proportion to their ownership interest.

The Department of Revenue (DOR) would administer the tax credit, and current law provisions related to change of ownership or timely claims would apply to the thermal biomass heating systems tax credit.

The tax credit would first apply to tax years beginning on or after January 1, of the year in which the bill took effect, except if the bill was effective after July 31 of that year, then the tax credit would first apply to tax years beginning on or after January 1 of the following year.

"Thermal biomass heating system" would mean a stove, furnace, or boiler that generates heat from biomass by providing an energy efficiency conversion of at least 75% and meets air quality standards that apply to the system on the day on which it was purchased. "Air quality standards" would be defined as all the requirements under federal and state air pollution laws.

"Biomass" would mean a resource that derives energy from wood or plant material or residue, biological waste, crops grown for use as a resource, or landfill gases. "Biomass" would not include garbage, as defined under state law, or non-vegetation-based industrial, commercial, or household waste. However, "biomass" would include refuse-derived fuel used for a renewable facility that was in service before January 1, 1998.

The estimated fiscal effect of the thermal biomass heating systems tax credit is based on data and other information related to biomass stoves, furnaces and boilers, and biomass fuel provided by industry representatives and associations, energy consultants, the Wisconsin Energy Conservation Corporation and Focus on Energy, the Energy Center of Wisconsin, the Wisconsin Office of Energy Independence, staff of UW Green Bay, Environmental Science and Policy program, 2009 Wisconsin Energy Statistics, and the U. S. Forest Products Laboratory. If the bill was enacted before July 31, 2010, the thermal biomass heating systems tax credit would reduce state individual income and corporate income and franchise taxes by an estimated $24.5 million in fiscal year 2010-11, and annually thereafter. In addition, there would be a one-time reduction in income and franchise tax revenues of an estimated $6.1 million in fiscal year 2010-11, to reflect the reconciliation of tax year and fiscal year tax liabilities. If the bill was enacted after July 31, 2010, income and franchise tax revenues would be reduced by an estimated $6.1 million in fiscal year 2010-11, and $24.5 million in 2011-12, and annually thereafter.

Thermal Biomass Fuel Tax Credit. The bill would create a thermal biomass fuel tax credit, under the state individual income and corporate income and franchise taxes, equal to 100% of the amount that the claimant paid for fuel used in a thermal biomass heating system that was installed in the claimant's primary residence or place of business in Wisconsin. Unused credit amounts could be carried forward up to 15 years to offset future tax liabilities. Thermal biomass fuel tax credits could not be claimed by part-year, or nonresidents for amounts paid to install a system in the claimant's primary residence in Wisconsin.

Partnerships, LLCs, and tax-option corporations could not claim the tax credit, but eligibility for, and the amount of the credit would be based on the entity's payment of eligible expenses. A partnership, LLC, or tax-option corporation would be required to compute the amount of the credit that each of its partners, members, or shareholders could claim and provide that information to

them. Partners, members of LLCs, and shareholders of tax-option corporations could claim the credit in proportion to their ownership interest.

DOR would administer the tax credit, and current law provisions related to change of ownership or timely claims would apply to the thermal biomass heating systems tax credit.

The tax credit would first apply to tax years beginning on or after January 1, of the year in which the bill took effect, except if the bill was effective after July 31 of that year, then the tax credit would first apply to tax years beginning on or after January 1 of the following year.

"Fuel" would mean fuel that was made from biomass and was used to power a thermal biomass heating system. "Biomass" and "thermal biomass heating system" would have the same definitions as those used for determining the thermal biomass heating system tax credit (above).

The estimated fiscal effect of the thermal biomass fuel tax credit is also based on data and other information related to biomass stoves, furnaces and boilers, and biomass fuel provided by the sources identified above. If the bill was enacted before July 31, 2010, the thermal biomass fuel tax credit would reduce state individual income and corporate income and franchise taxes by an estimated $39.6 million in fiscal year 2010-11, and annually thereafter. There would be a one-time reduction in income and franchise taxes of an estimated $9.9 million in fiscal year 2010-11, reflecting reconciliation tax year and fiscal year tax liabilities. If the bill took effect after July 31, 2010, income and franchise tax revenues would be reduced by an estimated $9.9 million in 2010-11, and $39.6 million in 2011-12, and annually thereafter.

The estimates presented above reflect current purchases of thermal biomass heating systems and fuel. With the proposed 100% tax credits, the state effectively would be covering the entire cost of these items, which would likely lead to an increase in sales of biomass heating systems and fuel. If this occurred, the fiscal effect of the proposal would be higher than the estimates shown above.

Property Tax Exemption for Thermal Biomass Heating Systems. LRB 3731/1 would create a property tax exemption for thermal biomass heating systems, as defined for purposes of the income and franchise tax credits (above), including accessories, attachments, and repair parts, but not including equipment or components that would be present as part of a conventional energy system. A property tax exemption would also be provided for all property that was used to store fuel that was made from biomass (using the definition included for the income and franchise tax credits), if the fuel was sold for use in thermal biomass heating systems, as defined for purposes of the income and franchise tax credits (above). The property tax exemption would first apply to property tax assessments for January 1, 2010.

By removing value from the property tax base, the proposed exemption would shift property taxes from the owners of the property covered by the exemption to the owners of other types of property that remain taxable. The value of existing thermal biomass heating systems is estimated at $200 million, which is the equivalent of 0.04% of the existing statewide property tax base. Owners of the affected property would experience a tax reduction estimated at $4 million on a statewide

basis, and owners of other types of property would experience a tax bill increase estimated at 0.04%, on average. As new heating systems are installed, the value of exempt property would increase by about $20 million each year, representing 0.004% of the existing tax base. The loss of tax base would reduce revenues collected through the state forestry tax by an estimated $34,000 annually. The revenue loss would increase by about $4,000 each year due to the purchase of new systems.

RS/sas

100% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 6.10	$ 24.50	
Thermal Biomass Fuel Tax Credit	$ 9.90	$ 39.60	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.04	
	$ 16.00	$ 64.14	**$ 80.14 Million**

95% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 5.80	$ 23.28	
Thermal Biomass Fuel Tax Credit	$ 9.41	$ 37.62	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.04	
	$ 15.20	$ 60.93	**$ 76.13 Million**

90% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 5.49	$ 22.05	
Thermal Biomass Fuel Tax Credit	$ 8.91	$ 35.64	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.04	
	$ 14.40	$ 57.73	**$ 72.13 Million**

85% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 5.19	$ 20.83	
Thermal Biomass Fuel Tax Credit	$ 8.42	$ 33.66	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.03	
	$ 13.60	$ 54.52	**$ 68.12 Million**

80% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 4.88	$ 19.60	
Thermal Biomass Fuel Tax Credit	$ 7.92	$ 31.68	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.03	
	$ 12.80	$ 51.31	**$ 64.11 Million**

75% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 4.58	$ 18.38	
Thermal Biomass Fuel Tax Credit	$ 7.43	$ 29.70	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.03	
	$ 12.00	$ 48.11	**$ 60.11 Million**

70% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 4.27	$ 17.15	
Thermal Biomass Fuel Tax Credit	$ 6.93	$ 27.72	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.03	
	$ 11.20	$ 44.90	**$ 56.10 Million**

65% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 3.97	$ 15.93	
Thermal Biomass Fuel Tax Credit	$ 6.44	$ 25.74	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.03	
	$ 10.40	$ 41.69	**$ 52.09 Million**

60% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 3.66	$ 14.70	
Thermal Biomass Fuel Tax Credit	$ 5.94	$ 23.76	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.02	
	$ 9.60	$ 38.48	**$ 48.08 Million**

55% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 3.36	$ 13.48	
Thermal Biomass Fuel Tax Credit	$ 5.45	$ 21.78	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.02	
	$ 8.80	$ 35.28	**$ 44.08 Million**

50% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 3.05	$ 12.25	
Thermal Biomass Fuel Tax Credit	$ 4.95	$ 19.80	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.02	
	$ 8.00	$ 32.07	**$ 40.07 Million**

45% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 2.75	$ 11.03	
Thermal Biomass Fuel Tax Credit	$ 4.46	$ 17.82	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.02	
	$ 7.20	$ 28.86	**$ 36.06 Million**

40% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 2.44	$ 9.80	
Thermal Biomass Fuel Tax Credit	$ 3.96	$ 15.84	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.02	
	$ 6.40	$ 25.66	**$ 32.06 Million**

35% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 2.14	$ 8.58	
Thermal Biomass Fuel Tax Credit	$ 3.47	$ 13.86	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.01	
	$ 5.60	$ 22.45	**$ 28.05 Million**

30% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 1.83	$ 7.35	
Thermal Biomass Fuel Tax Credit	$ 2.97	$ 11.88	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.01	
	$ 4.80	$ 19.24	**$ 24.04 Million**

25% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 1.53	$ 6.13	
Thermal Biomass Fuel Tax Credit	$ 2.48	$ 9.90	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.01	
	$ 4.00	$ 16.04	**$ 20.04 Million**

20% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 1.22	$ 4.90	
Thermal Biomass Fuel Tax Credit	$ 1.98	$ 7.92	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.01	
	$ 3.20	$ 12.83	**$ 16.03 Million**

15% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 0.92	$ 3.68	
Thermal Biomass Fuel Tax Credit	$ 1.49	$ 5.94	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.01	
	$ 2.40	$ 9.62	**$ 12.02 Million**

10% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 0.61	$ 2.45	
Thermal Biomass Fuel Tax Credit	$ 0.99	$ 3.96	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.00	
	$ 1.60	$ 6.41	**$ 8.01 Million**

5% Item	One Time Costs (Millions)	Annual Costs (Millions)	
Thermal Biomass Heating Systems Tax Credit	$ 0.31	$ 1.23	
Thermal Biomass Fuel Tax Credit	$ 0.50	$ 1.98	
Property Tax Exemption for Thermal Biomass Heating Systems	$ -	$ 0.00	
	$ 0.80	$ 3.21	**$ 4.01 Million**

Are Federal Tax Credits and Incentives Available for Homeowners and Businesses?

Biomass Fuel Stoves

1. **Can I get a tax credit for a biomass burning stove?** The Energy Improvement and Extension Act of 2008 added biomass stoves to the list of eligible equipment for residential federal tax credits. Biomass stoves that use "any plant-derived fuel available on a renewable or recurring basis, including agricultural crops and trees, wood and wood waste and residues (including wood pellets), plants (including aquatic plants), grasses, residues, and fibers" are eligible for a $300 federal tax credit during calendar year 2009.

Commercial Buildings Energy Efficiency Tax Deduction

1. **How much is the tax deduction?** A maximum of $1.80 per square foot. There is also a partial deduction of $.60 per square foot for building subsystems.
2. **How does a commercial building qualify?** The building's annual energy costs have to be 50% of the energy costs of a building built to the ASHRAE 90.1-2001 standard. The Department of Energy will create and maintain a public list of software that may be used to calculate energy and power consumption and cost for purposes of providing a certification.
3. **How do you qualify for the partial deduction of $.60?** Partial deductions are available for 1) lighting, 2) heating, cooling, ventilation, and hot water, and 3) building envelope. The building subsystems energy costs have to be 16 2/3% of a building built to the ASHRAE 90.1-2001 standard. The lighting subsystem also has an option of reducing the lighting power density by at least 25%
4. **Is there a time limit?** The commercial building has to be placed in service from January 1, 2006 to December 31, 2013.
5. **Are public buildings eligible?** The deduction can go to "the person primarily responsible for designing the property."
6. **How does a commercial building get certified for the deduction?** Before the taxpayer can claim the deduction, the taxpayer must obtain a certification from a qualified individual. A qualified individual is not related to the taxpayer and is an engineer or contractor that is properly licensed as a professional engineer or contractor.
7. **Can COMcheck software be used to determine tax credit eligibility?** COMcheck, a software tool developed by DOE, can be used to assist commercial building owners demonstrate compliance with building energy codes. The Internal Revenue Service (IRS) has agreed that the software can be used to help determine eligibility for lighting tax credits by calculating the percentage reduction in a project's lighting power density (LPD) compared to a code building as defined by Standard 90.1-2001. This helps owners plan improvements and claim credit as these interim rules permit. Owners can qualify for a tax credit between 30 and 60 cents per square foot off the cost of purchasing an energy efficient lighting system. The full range of credits will be available when the IRS finishes its final rules. The COMcheck tool is available for download and as a web-based version.
8. **Where can I learn more about the interim lighting rule?** See the attached article from "Setting the Standard,"a DOE publication.
9. **A presentation** about the Commercial Tax Creditis available online for more information.

New Home Energy Efficiency Tax Credits

1. **How much is the tax credit?** $2,000 for a builder and $1,000 for a manufactured home producer.
2. **How does a new home qualify for the $2,000 tax credit?** The home's annual heating and cooling must be at least 50% below the 2004 International Energy Conservation

Code (IECC) standard. Building envelope improvements must account for at least 1/5 of the 50%.

3. **How does a new manufactured home qualify for the $1,000 tax credit?** The home's annual heating and cooling must be at least 30% below the 2004 International Energy Conservation Code (IECC) standard or the home must be Energy Star certified. Building envelope improvements must account for at least 1/3 of the 30%.
4. **How does a new home get certified for the tax credit?** An eligible certifier is a person that is not related to the eligible contractor and has been accredited or otherwise authorized by RESNET (Residential Energy Services Network) or an equivalent rating network to use energy performance measurement methods approved by RESNET. IRS will create and maintain a list of eligible software programs that can be used to certify homes. Certification statements do not have to be attached to tax returns but need to be kept as tax records.
5. **Is there a time limit?** Construction has to be "substantially completed after date of enactment" (August 8, 2005) and the home has to be purchased during calendar years 2006, 2007, 2008, or 2009..
6. **Is the 50% reference to energy costs or energy use?** The 30% and 50% references are to annual heating and cooling energy consumption and not costs.
7. **Does a muti-family building qualify?** An eligible dwelling unit is defined as a single unit providing independent living facilities for one or more persons within a building that is not more than 3 stories above grade in height.
8. **Can a manufactured home qualify for the $2,000 credit?** Yes, if it satisfies the requirements for a new home credit.

Existing Home Energy Efficiency Tax Credits

1. **How much is the tax credit?** A maximum of $500 for all energy efficiency improvements. There are also maximums for windows ($200), furnaces or boilers ($150), advanced main air circulating fans ($50), heat pumps ($300), central air conditioners ($300), and water heaters ($300). For insulation, the tax credit is 10% of expenditures.
2. **Do the tax credits only apply to my principal residence?** Yes.
3. **What qualifies for the tax credit?** ·

   Qualified energy efficiency improvements - 10% of expenditures

   Building envelope component must meet prescriptive criteria of the 2004 IECC

   - Wall Insulation: R-21
   - Ceiling Insulation: R-49
   - Basement Insulation: Lower Peninsula - R-11 cavity (e.g. insulation between studs) or R-10 continuous (e.g. continuous foam board)

   Upper Peninsula - R-19 cavity or R-15 continuous

   - Windows & Doors: U-factor = .35
   - Metal roof with pigmented coating - must be Energy Star

   Residential energy property expenditures

   - Energy efficient building property - maximum of $300 for any item
   - Advanced main air circulating fan - maximum of $50
   - Natural gas, propane, or oil furnace or hot water boiler - maximum of $150

   Minimum Requirements:

   - Electric heat pump water heater: Energy Factor - 2.0
   - Electric heat pump: HSPF - 9, SEER - 15, & EER – 13
   - Central air conditioner: SEER – 15
   - Natural gas, propane, or oil water heater/space heater: Energy Factor - .80 or Thermal efficiency – 90%
   - Natural gas, propane, or oil furnace or hot water boiler: AFUE – 95

- Advanced main air circulating fan: fan used in a furnace which has annual electricity use of no more than 2% of total furnace energy use.

4. **Is there a time limit?** The improvements have to be placed in service during calendar year 2006, 2007, or 2009.
5. **Do Energy Star products automatically qualify?** Not necessarily, but many will.
6. **What kind of water heater will qualify?** Most water heaters will not be able to meet the .80 Energy Factor standard. It appears that many water heater/space heater combinations and tankless water heaters will qualify. The Energy Improvement and Extension Act of 2008 added thermal efficiency of at least 90% to the eligibility criteria.
7. **How will I know what qualifies for the tax credits?** Manufacturers will probably provide certification statements for their products. A taxpayer may rely on the manufacturer certification. A taxpayer is not required to attach the certification statement to his/her tax return, but a taxpayer should retain the certification statement as part of his/her tax records. Certification statements will be specific to different climate zones. A taxpayer that buys an Energy Star window or skylight may rely on the Energy Star label for documentation, but the window must be for the appropriate region.
8. **What about installation costs?** With respect to eligible building envelope components, the credit is only allowed for purchasing materials not the labor costs to install. With respect to equipment, i.e. energy efficient building property, installation costs are eligible for the tax credits.
9. **Can you qualify for both the energy efficient furnace and the advanced main air circulating fan?** Yes, you can combine the two credits.

Residential Solar Tax Credits

1. **How much is the tax credit?** 30% of photovoltaic or solar water heating system expenditures. There is no maximum for photovoltaic and there is a maximum of $2,000 for solar water heating.
2. **What qualifies for the tax credit?** Solar water heating systems must be certified by the Solar Rating Certification Corp. The law does not mention certification for photovoltaic systems.
3. **Is there a time limit?** The solar systems have to be placed in service during January 1, 2006- December 31, 2016.

Residential Wind Energy Tax Credits

1. **How much is the tax credit?** 30% of system expenditures. There is a $4,000 maximum credit and a maximum credit of $500 per half kilowatt..
2. **Is there a time limit?** The wind systems have to be placed in service during January 1, 2008- December 31, 2016.

Business Solar Tax Credits

1. **How much is the tax credit?** It has been increased from 10% to 30% for the next two years. There is no dollar limit.
2. **What qualifies for the tax credit?** Eligible technologies are photovoltaic and solar thermal systems. Hybrid solar lighting systems (fiber-optic distributed sunlight) have been added until 1/1/07.
3. **Is there a time limit?** The solar systems have to be placed in service during January 1, 2006 – December 31, 2016.

Transportation-Related Questions

1. **Can a diesel vehicle I fill with biodiesel qualify for the alternative fuel vehicle tax credit?** Private consumers are not eligible for tax credits for biodiesel and/or ethanol (E85) fuel capable vehicles.
2. **Are there tax credits for purchasing a hybrid vehicle?** Purchasers of hybrids qualify for a:
   - tax credit of 20% of incremental cost if light-duty hybrid gets 30-39.9% more fuel economy (compared to 2002 fuel economy standards)

- tax credit of 30% of incremental cost if light-duty hybrid gets 40-49.9% more fuel economy (compared to 2002 fuel economy standards)
- tax credit of 40% of incremental cost if light-duty hybrid gets 50% or more fuel economy (compared to 2002 fuel economy standards)

Additional Resources

Where else can I go for information?

Database of Incentives for Renewables and Efficiency http://www.dsireusa.org/

- Alliance to Save Energy
- Tax Incentives Assistance Project
- IRS Guidance for Home Builders
- IRS Guidance for Homeowners
- IRS Guidance on Commercial building Energy Efficiency Tax Deduction
- ASHRAE Conference (2/20/07) Presentation on Commercial Building Tax Deduction